LISTENING IN SHUFFLE MODE

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1. Music Players and User Controls

Current approaches to the significant influence of technology on music today tend to focus on how production, distribution, and consumption are being reshaped by digitalization, favouring rhetoric loaded forecasts. Relevant as these large scheme issues may be to the understanding of the present of music, here I will consider our mere experience as listeners, or rather as users of those most simple technological devices and software applications known as music players. Of course many gadgets and programs can play music, besides doing other things (editing, recording, sampling sound, etc.). However, under the name of *music players* I am referring here to the mainstream devices almost universally used to listen to music, including hi-fi equipment, portable CD-players, digital players, etc., and also software as RealPlayer, iTunes or Windows Media Player. I will focus on all the listening situations made possible by those mechanisms, and think for a while what *play* means in these cases. Or, in other words, what kind of actions we as users are allowed when we *play* a piece of recorded music (be it an album, a song, or some part of it). Therefore you will discover that when we *play music* we usually can at least:

- choose which track we want to play (though selecting a specific part of it is not always possible or easy),
- listen to it an unlimited number of times (*repeated listening*),
- skip a track,
- set the volume, pumping it up or down within certain limits.

In some cases we can exert more control on the sound quality of the music. For example, we can:

- change the audio balance between the loudspeakers,
- equalize the sound, etc.

These actions are called user controls, and in fact the history of music technology – and specifically of music players – could be read as a process of implementation of new user controls: from the phonograph and the gramophone, which did not allow any kind of user control – except placing and removing the cylinder or the disc –, to the standard sound filters (graphic equalizers) so common for hi-fi components (Pachet 1999: 1).

Yet users are rarely aware neither of their limited influence over music players, nor of the theoretical perplexities arisen by some user controls – repeated operation contributes to naturalize them. Take the volume control, for instance. The volume dial or button may be considered the most universal feature of music players, to the point that we can hardly conceive of one lacking it. However, isn't it odd enough that we can change the volume setting not only from track to track, but even during the playing of a single song? If wild decibels are an important characteristic of such musical genres as heavy metal or punk, why are we users allowed to underplay Sex Pistols' *God Save the Queen* at low volume?

Anyway, my purpose here is not to discuss the volume button or other classic user controls, but to survey a relatively new user control made possible by digitalization: the so-called shuffle mode.

2. A New User Control: The Shuffle Mode

The shuffle mode may be described as the haphazard reproduction of a certain number of tracks. In other words: it is a user control that paradoxically involves a renunciation of control on the part of the user. However, as we will see, this renunciation has limits, and it is also counterbalanced by a complex set of features that restrict or condition in different ways the effects of sheer chance.

Of course, the possibility of randomness in music playing existed prior to the advent of mp3 music players – many hi-fi systems and portable CD-players include a random button which can be pushed before or during the playing of one or several CD's (depending on the reproduction capabilities of the system). However, its real potential was not disclosed until the invention and general acceptance of digital formats apt to the compression and exchange of music, especially the mp3, adopted as a standard in 1991. First, because these new formats brought about the commercialization of new devices with an exceptional storage capability – able to load thousands and thousands of songs –, and in parallel an exponential increase of the universal stock of digitized musical files. Second, and most importantly, they established the status of individual songs as primary units of personal

lists of reproduction (playlists) and music libraries, independently from the CD's of which they were originally part. Moreover, they facilitated the exchange of musical files either person-to-person or on the net, by legal or illegal means, on an unprecedented scale. As a result, the random function has acquired new meaning in digital music players, as now it usually involves the chance reproduction of a large number of songs, as well as the obscuration of their link with CD's or albums. This shift of meaning justifies my choice of the term shuffle instead of random, though obviously the shuffle mode must be considered a form of randomness.

Besides, shuffle is also the term used by Apple in its iTunes software and iPod series of portable digital players, which since its launch, in November 2001, has always offered a shuffle songs option, though it was not included in the main menu until the fourth generation, released in July 2004 (Dodes 2004). Actually the iPod's great capability and rapid spread (100 million units sold in April 2007), accompanied by lots of hype, has turned to be the main reason for the consequent favourable reception of this new user control. In 2005 Apple released a model designed to play preferably in shuffle mode, the iPod Shuffle, marketed with catch-phrases like »Life is random«, »Give chance a chance«, and »Enjoy uncertainty«. It sold so well that the very first year it already owned 43 percent of the worldwide market for flash memory music players (Wood 2005) – a share that may have increased dramatically in 2007, thanks to the tinier and cheaper iPod Shuffle 2. In addition, the term shuffle – referring either to a single feature or to a model of digital player – has also been adopted by most of iPod's competitors – e.g. the Zune by Microsoft and the iRiver Shuffle –, though some others – e.g. the Creative Zen Stone – have preferred to maintain the name random.

Although many digital players can be connected to ad hoc loudspeakers, it is important to bear in mind that here I will focus exclusively on listening through headphones – that is, on digital players as a replacement of other mobile, personal devices as Walkmans and portable CD-players –, because this is their most extended and visible use, particularly in public spaces. As I will try to show later, the shuffle mode of digital players can be interpreted as an enhancement of some typical traits of the Walkman experience (Bull 2005), though current literature on Walkmans and personal stereos (Hosokawa 1984 and 1990, Du Gay et al. 1997, Bull 2000, Thibaud 2003) can be applied to digital music players only to a certain extent.

To begin with: What does the shuffle do exactly? How is the uncertainty mentioned in the iPod marketing campaign attained? Basically, the shuffle reorders

the user's music library or playlists according to a randomization algorithm that it is so close to perfect randomness as a machine can get. This algorithm can be applied in two different ways:

a. Shuffle without replacement: in this case the randomization algorithm chooses songs in the very same way as one would pull cards from a previously shuffled deck. Consequently, a song will not be repeated until all songs have been played once (or the shuffle function is reset) (Dodes 2004, Levy 2006: 180–181). This is how iTunes', iPod's and other digital players' shuffle songs command operates, though iTunes' shuffle can also shuffle playlists and so-called smart playlists (playlists created automatically complying with user-defined parameters). In addition, the shuffle without replacement can be used to create a playlist choosing the songs randomly from the music library or from another playlist, e.g. to autofill the iPod Shuffle (checking »choose items randomly«).
b. Shuffle with replacement: it means that any time a song is chosen all songs of the music library (or playlist) are equally likely to be picked – therefore, songs can eventually be repeated. Shuffle with replacement is at the base of an iTunes function called party shuffle (launched with version 4.5), which serves the purpose of creating random playlists, either from the music library or from another playlist (Hansen 2005).

Yet, as I mentioned before, the shuffle function is not only about uncertainty and chance. For instance, as for iPods and iTunes, Apple has introduced progressively new user controls intended to tame the seemingly wild experience of fortuitous listening. On the one hand, these improvements are intended as a response to user complaints about the allegedly higher probability of some artists or albums to occupy the first ranks of a shuffled music library, or to be part of an iPod Shuffle playlist – an issue that has been passionately discussed in uncountable blogs and forums, often coming close to collective paranoia (Levy 2006: 169–196). To counterbalance this effect of randomization, the smart shuffle allows the user to decide how likely she is to hear multiple songs in a row by the same artist or from the same album, and if the basic shuffle units must be the songs, the albums, or the groupings (multitrack musical works). On the other hand, the new features certainly satisfy a reasonable claim for better management capabilities on the part of users. So, for those who take the time to evaluate their listening sessions, both the autofill function of the iPod Shuffle and the iTunes' party shuffle offer the option of giving preference to high-rated songs (Hansen 2005). And of course

the users can also exert more control on their listening sessions shuffling either handpicked playlists or smart playlists, or taking advantage of other tricks and tips.

3. The Shuffle Mode and the Psychology of Expectation

Besides the obvious advantage of not having to select the tracks that one wants to listen to – an important point that must not be underestimated on account of the large amount of musical files owned by a typical user –, the shuffle mode adds some interesting aspects to the experience of music listening. To a great extent these novel aspects can vary situationally, e.g. depending on the attitude (both mental and physical) of the listener, her competence, the musical material she listens to, and the cultural and social context where the listening takes place. However, I believe that it is possible to delineate some general properties of the shuffle mode of listening, relying on literature on the subject (Bull 2005, Levy 2006) as well as personal experience.

From a psychological perspective, the pleasure of music has been described as the elicitation of expectation-related emotions leading either to fulfilment or to surprise (Meyer 1956, Huron 2006) – that is to say, as a balance between the desire for repetition and the desire for surprise (Pachet 1999: 8). Actually, the shuffle mode also deals with different types of expectations and expectation-related emotions (Huron 2006):

- sheer expectation about w h a t is going to be played next, normally just before the beginning of a new song. This state of mind can vary from emotionless low-level attention (if the listener is not particularly focussed on the music) to strong attention associated with different emotions (fantasy, exhilaration, tension, etc.).
- v e r i d i c a l e x p e c t a t i o n s while listening to a well-known song (or a part of a song: typically, a h o o k) that the listener recognises due to repeated exposure to it, and whose development is thus able to anticipate. In this case, the emotions can vary depending, for example, on what was the last time the user listened to the song. As it happens, iPod users often declare their enthusiasm for rediscovering old favourites that they did not even remember having purchased or loaded. On the contrary, when the songs played are quite familiar, the main satisfaction for the listener lays on successful prediction.
- d y n a m i c e x p e c t a t i o n s , which unfold mainly while listening to an unknown or forgotten song, as the listener tries to recognise patterns typical of that particular piece or enculturated s c h e m e s of musical events (s c h e -

matic expectation). This kind of expectations can trigger tension, for example while trying to guess the name of the artist performing a song, the title of the song or other data – a situation quite common among users of screenless digital players, as the iPod Shuffle, the iRiver Shuffle or the Creative Zen Stone. They can also result in compelling experiences, for instance when the listener considers a random sequence of songs and discovers unexpected similarities between very different styles or artists, or appreciates how a song can be enhanced by contrast. For this reason, shuffle listening is deemed by many users a mind-opening activity – one that challenges the established boundaries of musical genres and repertoires.

However, as a function based on uncertainty, the shuffle mode deals with anticipation and surprise only to a certain extent. As a matter of fact, what I find most intriguing about shuffle listening is the fact that it stresses the passivity of the listener – a characteristic certainly not exclusive of this mode of listening (in fact, some degree of passivity is to be found in all listening experiences), but commonly dismissed in favour of notions of listening as active perception (as opposed to hearing). For instance, expectations generated just before the start of the next track involve too many uncertainties – about the artist, the style, the genre, etc. – to allow the emergence of any specific anticipation, or to result later in surprise – as surprise is nothing else than the outcome of deceived anticipations. When the new song pops up, the user's attention is triggered almost as a reflex action. To a certain extent shuffling massive music libraries resembles listening to a new album or assisting at a premiere, since it regularly excites the user's aesthetic curiosity and her appetite for novelty. Only later will she devote conscious, sustained attention to the music, and thus anticipations will be shaped – primarily, out of dynamic expectations.

It is true that all those three types of expectations, the corresponding varieties of attention I have brought up, and the passive character are also typical features of radio listening, as radio audiences often do not know in advance what is going to be broadcast. Indeed, radio analogies are very common among shuffle listeners, who usually think of their digital music players as personal radio stations (Levy 2006: 189–190). However, shuffle listening is not community-based: its strength lays precisely on the personal side. The fact of shuffled sources being the users' personal music library or playlists makes a significant difference – a difference established not necessarily in terms of content (since users' playlists can be so mixed or limited to a musical style as radio stations), but foremost with regard to the attachment of the listeners, who feel more intimately engaged with the mu-

sic. In other words: rather than conventional radio, either programmed by human beings or by automatic schedulers as GSelector – the former Selector (Fabbri 2005: 255–263) –, the shuffle mode resembles Internet radio stations as Pandora.com or Last.fm, where the automatic selection of tracks is based on the musical preferences declared by the user. In addition, the solitary practice of listening through headphones – whereas radio is still most commonly listened to without them – strengthens the emotional link between the users and their digital players.

In spite of the degree of passivity that distinguishes shuffle listening, for many users it is a private, very much engaging p l a y involving machine and user-defined rules, the user's mood, her competence, memory, and appraisal ability, as well as the context of listening (the social situation and the physical environment). In fact, shuffle listening shares many of the typical characteristics of play (Huizinga 1938, Caillois, 1958).

Obviously, the playful character of shuffle listening is best appreciated when the users shuffle their whole music libraries, sometimes producing bizarre playlists that, as I have already mentioned, defy standard musical classifications, or discovering musical gems hidden in their large collections. On the other hand, if they prefer to exert control on the results of the shuffle mode, either shuffling playlists or smart playlists, or applying the restrictions allowed by the software (as for iTunes and iPods), then the effects become more predictable, and the interaction subject-device is more devoid of emotion. Of course, they can also decide to skip all the tracks they do not feel like listening to.

Perhaps the most radical example of playful interaction while listening in shuffle mode are those iPod users that infer almost human behavioural patterns from the random musical sequences produced by their devices, and treat them as if they were musical Tamagotchis, speculating about their devices' m u s i c a l t a s t e s or even believing that in some way their gadgets can d e t e c t their moods or r e s p o n d to different environments (Levy 2006: 174–175).

4. Body and Context in Shuffle Listening

Apparently, shuffle listening also shares another typical feature of p l a y : the fact that it develops in a place and time of its own separated from the everyday. Since their invention portable players have always been about isolation, and their technical improvement has run parallel to the perfection of headphones and earbuds in quest of more effective technologies of noise-control, better isolation and more comfort. Moreover, some researchers have underscored that listening to personal

stereos usually implies a desire for creating a private bubble in public space, or even for imposing upon the everyday a personal narrative based on musical taste. Notably, drawing on interviews with portable stereos' users, Bull (2000) described their listening experiences as personal tactics for managing emotions, reappropriating urban spaces and aestheticizing daily routines.

Yet a successful strategy for managing emotions or transforming the everyday chores into aesthetic events would require almost total absorption – a state of mind that is quite rare, or anyway provisory, among mobile listeners, except maybe in pauses during travels, waiting time or on other occasions in which attention to the environment can be kept at a minimum. Though it would be too long to elaborate on this now, I would like to mention at least two points that in my opinion should be considered in order to supplement and reframe the notion of mobile listening as a strategy of users for creating a kind of private world.

First, particularly in the case of mobile listening (but maybe as for listening in general), I think that it makes little sense studying perceptions and actions separately: taking note of what listeners experience and feel is so important as noticing what they do while listening. Therefore, we should consider the fact that, despite being psychically and physically connected to the music (Hosokawa 1984: 174–178), users of digital players also appear to be seamlessly integrated in the outward everyday. Be it for cultural reasons or mere practical ones (avoiding exposure to danger), mobile listeners cannot fully abstract themselves from their surrounding context – neither acoustically nor visually (Thibaud 2003: 329–330). What is more, acoustical detachment from the environment increases attention to visual stimuli. Contrary to what happens in classical concerts, or even – under different circumstances – in rock concerts, the condition of mobile listener is fully compatible with the conditions of pedestrian, commuter, passenger, etc. – actually they are superimposed. Regardless of the music they might be listening to – be it hardcore, salsa or Celtic tunes –, users normally comply with the rules of behaviour in public spaces – at least with the rules tacitly agreed in urban spaces of the Western world –, limiting their physical response to music in order not to intrude into other people's personal spheres. For instance:

- they do not sing along,
- they usually do not dance, jump, or move to the music openly,

Instead they would rather:

- lip-synch to the music,
- synchronise their movements or walk following the rhythm of the music,
- perform shy movements (tapping feet or fingers, shaking heads, etc.).

On the other hand, while listening to their personal stereos the users routinely perform the actions dictated by the surrounding social situation – e.g. holding an umbrella, stopping and waiting in front of traffic lights, etc.

Second, I think that research on mobile listening must take into account the users' statements of intention, but cannot rely chiefly on them. In listening contexts with shifting conditions of attention, and many competing stimuli, unconscious perception features prominently, and the declared intentions of the listeners are just another element of the situation – an element that must be compared with as many other data as possible in order to be interpreted accurately.

Having said that, I think that one of the most basic and important functions of the shuffle mode – one that it is rarely mentioned by users – consists in reminding the listener periodically that she is listening. This is accomplished by mimicking the continuous and – at least to a certain extent – unpredictable solicitations of the encompassing environment. The shuffle mode regularly calls the user's conscious attention to music, preventing her from indulging in low-level attention, rumination or daydreaming. The expectations elicited by random selection help the listener put off the physical context as background, and concentrate on the forthcoming song.

Nevertheless, in those moments in which the user is more focussed on listening, the shuffle mode – especially when applied to a huge music library – can also trigger a process of successive identifications with multiple self-styles or moods, or with past periods of her biography. Definitely, the exhilaration derived from shifting identities and moods is one of the greatest pleasures of listening to music in shuffle mode – a pleasure that should probably be studied in conjunction with the eclecticism of musical taste fostered by the easy access to digital files. However, the most intriguing characteristic of shuffle listening is that, contrary to the experience of portable stereos' users, obsessed about finding the *right* music to match – or, more subtly, to mismatch – their current mood, shuffle listeners – especially when shuffling whole music libraries – accept to adjust their moods to the music selected by their devices. In other words: whereas Walkman users usually considered their portable stereos as a tool for inducing certain moods, shuffle listeners seem to use their digital players for discovering their actual states of mind, challenging common notions of agency and of music consumption as a way of managing emotions.

At a further stage, the experience of shuffle listening might be notably enhanced when the music somehow connects with the physical context, provoking sensations ranging from the musical »colouring« of street scenes (Bull 2005: 351), to that feeling of *tuning in into the environment* already de-

scribed by many users of portable stereos and digital players and that also seems to be the real jackpot of the shuffle game. Yet this is really an exceptional sensation, a memorable moment in which something like a harmony between listener and context – not a real interaction, but an aesthetic fiction mediated by music – is attained. Rather than becoming an actor in a musical event, the listener transforms eventually into a spectator of the video clip created by the intersection of her random soundtrack and the setting (Bull 2000: 85–96).

5. Shuffle Listening and Ubiquitous Subjectivity

All these reflections about the interplay among the listener's body and actions, the context of listening and the music make me think of u b i q u i t o u s l i s t e n - i n g , as defined by Anahid Kassabian (Kassabian 2002 and 2004). First, if the rules of behaviour of listeners are one of the codes of the musical event that define a musical genre (Fabbri 1999: 8), then listening to portable digital players is certainly »dissociated from specific generic characteristics of the music«, since the listening context levels the physical response of the users to different musics, and consequently also influences their emotional response. In the case of shuffle listening, this dissociation is even considered as an invitation to cross the generic borders. Secondly, it usually takes place »›alongside‹ or simultaneously with other activities« (Kassabian 2002: 137) – a circumstance that, as I have argued, justifies the function of shuffle listening as a periodical call of attention to the music. In the third place, listening to portable players, and specifically shuffle listening, involves a multi-located attention (Kassabian 2004: 213), alternatively directed to visual and auditory stimuli of the context, body sensations and the music listened to. In this sense, the regular solicitation of shuffle mode could be reckoned as a playful response to the excess of competing stimuli that force us to focus or divide our attention – a game of chance that successfully mirrors the perceptional uncertainties of walking in the city. On the other hand, it also prompts the listener to swing back and forth between her status of pedestrian or commuter and her status as listener.

Finally, a last remark about technology and the history of human perception. It is noteworthy that the bitter complaints raised in the 80s against the first personal stereos (the Walkman and other alike devices), concerned with their inhibition of interpersonal interaction, and the users' oblivious attitude – fully absorbed, staring at the void (Hosokawa 1990: 104) –, now have practically disappeared, probably because the performance of personal routines in public – answering and

making calls, working with the laptop, playing or watching a movie – has become a widespread practice – behaviours once considered funny or disrespectful have become totally familiar (Turkle 2006: 3). This should remind us that all technological devices, and certainly all user controls, are not only knots in the string of history, but also agents that actively reshape our perceptions and, broadly, transform our subjectivity. Therefore, we can be sure that the widespread practice of shuffle listening, particularly among iPod users, will lead in due time to the invention of new user controls. Sure somebody – probably not a musicologist – is already thinking about it.

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